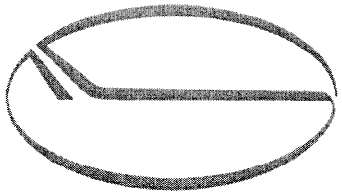
134632



Air Transport Association

July 14, 2001

FAA-01-9634-4

Dockets Management System
U.S. Department of Transportation Dockets
Room Plaza 401
400 Seventh Street SW
Washington, DC 20590-0001

Subject: Notice of Proposed Rulemaking, Docket No. FAA-2001-9634, re: **Electrical Installation, Nickel Cadmium Battery Installation, and Nickel Cadmium Battery Storage,** 66 Fed. Reg., Vol. 96, May 17, 2001

Ladies/Gentlemen:

FAA has proposed to amend the airworthiness standards for transport category airplanes concerning electrical equipment and nickel cadmium battery installations, which would harmonize FAR Part 25 and JAR-25 requirements for the equipment and installations.

This action would eliminate regulatory differences between the airworthiness standards of the U.S. and the Joint Aviation Requirements of Europe, without affecting current industry design practices. The proposal would harmonize three regulations of the FAR and JAR, as follows:

* FAR Section 25.1353 and JAR-25.1353, which require that transport category airplanes install electrical equipment, controls, and wiring in a manner that will not adversely affect the simultaneous operations of any other electrical unit or system essential to the safe operation of the airplane. FAA estimates that this action would result in an overall cost savings.

* FAR Section 25.1353(c)(5) and JAR-25.1353(c)(5), which address the design and installation of nickel cadmium storage batteries. Part 25 limits this requirement to batteries only capable of being used to start an engine or auxiliary power unit. FAA estimates that this action would have no cost impact.

* FAR Section 25.1353(c)(6) and JAR 25.1353(c)(6), which address nickel cadmium battery installations with regard to protection against battery overheating. FAA estimates that this action would have no cost impact.

Member airlines of the Air Transport Association provided the attached comments to the proposal. They indicate that the cost estimates in the proposal are flawed because they do not address the cost of compliance when installing new equipment in existing airplanes. The retrofit of

Air Transport Association of America
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new equipment is often mandated. For example, independent power supplies for flight data and voice recorders may soon be required. We recommend the costs of retrofit activities be assessed and addressed in the rule, particularly in view of the rule issued June 7, 2000, regarding Type Certification procedures for Changed Products.

We appreciate the opportunity to contribute comments to this proposed rulemaking and thank you for your consideration of these views.

Sincerely,

Joe White
Director, Aircraft Systems Engineering

Cc: Stephen Slotte, ANM-111, Seattle ACS, fax 425-227-1320
AEC

Attachments

/01Ae056

From: Cherie Cable [via e-mail]
Sent: Wednesday, June 13, 2001 9:22 AM
To: White, Joe
Cc: Barbara Taylor; Cherie Cable; Gerry Burns; Janice Tedford; Lester Wagner; Lisa Gibbs; Marilyn King; Mark Hill; Mike Keller; Pat Hawley; Ray E Morgan; Rick Hardmeyer; Rick Yorman; William Bartelt

Subject: ATA MEMO NO. 01-AE-056

** High Priority **

Mr. Joe White
Director, Aircraft Systems Engineering, ATA

June 15, 2001

REFERENCE: ATA Memo No. 01-AE-056, May 17,2000: Docket No. FAA-2001-9634

Subject: Electrical Installation and NiCad Battery Design and Installation, Airworthiness Standards - Proposed Rule.

American Airlines has reviewed the ATA Memo No. 01-AE-056 and the attached Docket No. FAA-2001-9634. In our opinion, the proposed airworthiness standard amendments for Part 25.1353 paragraphs (a) and (c)(5) are reasonable. However, American Airlines would like to point out that the proposed change to Part 25.1353 paragraph (c)(6) modifies the JAR 25.1353 standard. The more stringent standard will apply to all Ni-Cad batteries on the aircraft including emergency packs and portable flashlights. These batteries do not typically require warning for over-temperature/failure of the system because of the low current (trickle) charge to maintain them. The statement that this change would have no cost impact, we feel, is incorrect. The manufacturers of these Ni-Cad systems would have to evaluate and modify their current designs to meet this new / modified standard.

Best Regards,

Mark Boes
American Airlines
Aircraft Engineering
Managing Director

Department Number
C8020
Northwest Airlines, Inc.
5101 Northwest Drive
St. Paul, MN 55111-3034

NORTHWEST AIRLINES

June 14, 2001

Mr. Joe White
Director, Aircraft Systems Engineering
Air Transport Association of America
1301 Pennsylvania Ave NW, Suite 1100
Washington, DC 20004-1707

Subject: Electrical Installation and NiCad Battery Design

Reference: AD Memo No. 01-AE-056
FAA Docket No. FAA-2001-9634

Dear Mr. White:

AE Memo 01-AE-056 requests comment to the following FAA and JAA harmonization rule changes. Harmonization is the process of making the FAR and JAA rules identical. To simplify harmonization, FAA and JAA have agreed to adopt the stricter version of a particular rule being harmonized. In most cases, this will result in the FAR adopting the JAA rule.

1. FAR Section 25.1353 and JAR-25.1353 will add the requirement to FAR Section 25.1353, electrical equipment installations, "that any electrical interference likely to be present in the airplane must not result in hazardous effects upon the airplane or its systems except under extremely remote conditions."

2. FAR Section 25.1353(c)(5) and JAR-25.1353(c)(5) will add the requirement to FAR Section 25.1353(c)(5) that ALL nickel cadmium batteries must have provisions to prevent any hazardous effect on structure or essential systems that may be caused by the maximum amount of heat that a short circuit of the battery or individual cells. Previously this was only required for nickel cadmium batteries capable of being used to start an engine or auxiliary power unit.

3. FAR Section 25.1353(c)(6) and JAR-25.1353(c)(6) will require that ALL nickel cadmium batteries have:
   (a) A system to control the charging rate of the battery automatically to prevent battery overheating.
   (b) A battery temperature sensing and over-temperature warning system with a means of disconnecting the battery from its charging source in the event of an over-temperature condition; or
   (c) A battery failure sensing and warning system with a means for disconnecting the battery from its charging source in the event of battery failure.

Previously this was only required of nickel cadmium battery installation used for engine or APU starting (FAR) or nickel cadmium battery installations that were not provided with low energy charging means (JAR).

General Comments:
To promote harmonization, the FAA has taken the position that aircraft sales are global in nature. For a United States aircraft manufacturer to sell aircraft in Europe, the United States manufacturer must comply with both FAA and JAA rules. The same is true for a European aircraft manufacturer to sell aircraft in the United States. Since all aircraft manufacturers must comply with the stricter version of the individual rule to sell their products worldwide, there is no cost for harmonization of FAA and JAA rules. That is true for aircraft manufacturers, but is not true for modifications to existing aircraft. Any new modification of an existing United States aircraft will cost more because of adopting of the stricter, usually JAA, rule.

Specific Comments
Item One:
On any existing aircraft, every new electrical installation will require analysis of failure modes to determine electrical interference caused by the failure. New installations will require stricter electromagnetic suppression designs to insure compliance. Engineering and material costs will increase. Exact costs to Northwest Airlines are unknown.

Items Two and Three:
The future costs to NWA of items two and three is determined by the number of installations using nickel cadmium batteries, the size of the nickel cadmium battery in the installation and quantity of aircraft involved. One upcoming installation, Remote Independent Power Supplies, could be required on all Northwest Airlines aircraft. A rough estimate of increased hardware cost is $500 to $1,000 per unit, times 434 aircraft on hand. This totals $217,000 to $434,000 in increased cost for just one installation. Another installation that could be affected is cabin emergency lighting.

Respectfully,

Mark Millam
Chief Engineer

cc: Loren Bolstridge
Larry Stevick
Kirk Thornburg

UNITED AIRLINES

Maintenance Operations

July 2, 2001

Air Transport Association of America
1301 Pennsylvania Ave., NW, Suite 1100
Washington, D.C. 20004-1707

Attention: Mr. Joe White
Director, Aircraft Systems Engineering

Subject: Electrical Installation, Nickel Cadmium Battery Installation, & Nickel Cadmium Battery Storage - Proposed Rule
NPRM Docket No. FAA-2001-9634

Reference: ATA Memo 01-AE-056

Dear Mr. White,

The reference ATA Memo advised of and requested comments on the subject proposed rule that will revise 14 CFR Section 25.1353 Electrical equipment and installations, sub-paragraphs (a) and (c). The proposed revisions bring this section in line with the more stringent JAR requirements. We concur with the contents of the proposed rule and have no additional comments.

Sincerely,

J. M. Gay
Chief Engineer

cc: Tim Shaver, United Airlines - INDEG